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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,462	06/23/2003	Daniel Wayne Bedell	HIT1P006/HSJ9-2003-0045US	2629

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EXAMINER
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CHEN, TIANJIE

ART UNIT	PAPER NUMBER
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2652

DATE MAILED: 03/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/602,462

Applicant(s)

BEDELL ET AL.

Examiner

Tianjie Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 1-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 25-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>20030623</u> . | 6) <input type="checkbox"/> Other: _____  |

## ***Non-Final Rejection***

### ***Election/Restrictions***

1. Applicant's election without traverse of Group II claims 25-37 in the reply filed on 11/29/2004 is acknowledged.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 25-34, 36 and 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Hsu et al (US 2002/0191349).

Claim 25, Hsu et al shows a magnetic head in Fig. 10A, including: an insulating layer 207 ([0058] lines 12-14); a photoresist layer 208 positioned adjacent the insulating layer for defining one channel for accommodating the whole coil; and a coil structure 206+230 defined by a conductive material situated in the channel; wherein a profile of the channel includes a first segment for accommodating 206 defining a first angle and a second segment for accommodating 230 defining a second angle.

Claim 26, Hsu et al further shows that the first segment of the channel is positioned below the second segment of the channel.

Claim 27, Hsu et al further shows that the first segment defines a beveled angle (Fig. 10A).

Claim 28, Hsu et al further shows that the first segment defines an angle between 70 to 85 degrees.

Claim 29, Hsu et al further shows that the second segment defines an angle that is substantially vertical.

Claim 30, Hsu et al further shows that the second segment defines an angle between 80 to 90 degrees.

Claim 31, Hsu et al further shows that the first segment defines an angle between 70-85 degrees.

Claim 32, Hsu et al further shows a magnetic head.

A "product by process" claim is directed to the product per se, no matter how actually made, see *In re Hirao*, 190 USPQ 15 at 17 (footnote 3 CCPC, 5/27/76); *In re Brown*, 173 USPQ 685 (CCPA 5/18/72); *In re Luck*, 177 USPQ 523 (CCPA, 4/26/73); *In re Fessmann*, 180 USPQ 324 (CCPA, 1/10/74); *In re Thorpe*, 227 USPQ 964 (CAFC, 11/21/85). The patentability of the final product in a "product by process" claim must be determined by the product itself and not the actual process and an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. In claim 32, "the reactive ion etching includes H<sub>2</sub>/N<sub>2</sub>/ H<sub>2</sub>/CH<sub>3</sub>F/C<sub>2</sub>H<sub>4</sub> reducing chemistry" is a process related limitation, which gains no weight in determining patentability.

Claim 33, Hsu et al shows that the photoresist is hard-baked ([0058] lines 12-14).

Claim 34, Hsu et al shows that the conductive material includes Cu ([0071]).

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Claim 36, Hsu shows a magnetic head.

The process related limitation gains no weight in determining patentability for the same reason described above.

Claim 37, Hsu et al shows a disk drive system in Figs. 1 and 10A, including: a magnetic recording disk 34; a magnetic head 42 including: an insulating layer 207, a photoresist layer 208 positioned adjacent the insulating layer for defining one channel, and a coil structure 208+230 defined by a conductive situated in the channel, wherein the channel and coil structure include a first segment defining a first angle and a second segment defining a second angle; an actuator 47 for moving the magnetic head across the magnetic recording disk so the magnetic head may access different regions of the magnetic recording disk; and a controller electrically coupled to the magnetic head.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al in view of Hsiao et al (US 6,570,739).

Hsu et al does not show that the aspect ration of the channel and coil structure is at least 2.5.

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Hsiao et al shows a magnetic head wherein that the aspect ration of the channel and coil structure is at least 2.5 (column 5, lines 37-39).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to set the aspect ration of the channel and coil structure is at least 2.5 as taught by Hsiao et al. the rationale is as follows: Hsiao et al teaches that by setting high aspect ratio for the coil, the rise time can be shortened, the data writing rate can be increased (Column 1, lines 36-45). One of ordinary skill in the art would have been motivated by Hsiao et al's teaching to set the aspect ration to increase data writing rate.

#### **Conclusion**

4. The prior art made of record in PTO-892 Form and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tianjie Chen whose telephone number is 571-272-7570. The examiner can normally be reached on Flexible.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on 571-272-7579. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
TIANJIE CHEN  
PRIMARY EXAMINER